

Systematic Review: Expressive arts interventions to address psychosocial stress in healthcare workers

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Abstract

Aims: To synthesize evidence about the effectiveness of expressive arts interventions used to reduce psychosocial stress among healthcare workers.

Design: Quantitative systematic review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.

Data Sources: SocINDEX, PsycINFO, Pubmed, CINAHL.

Review Methods: Databases were searched from 1997-2017. Fourteen studies met the criteria for final selection.

Results: Most studies occurred in the US ($N = 11$). Of the 897 participants, 59% were nurses. Two studies were randomized controlled trials and the others were a variation of a 1-group or 2-group pre- or quasi-experimental study. The intervention characteristics included 50% art-based, 29% music-based, and 21% used storytelling or narrative. The length of intervention varied from 1 hr to 13 weeks; 5 lasted 6 weeks. Improved outcomes were found in 13 of 14 studies reviewed and the greatest improvements were seen in burnout, stress, and emotional outcomes. Overall, music and art-based interventions had greater impact on well-being than storytelling or narrative.

Conclusions: This systematic review provides preliminary evidence for the effectiveness of expressive arts interventions.

Impact: Care for others is a preeminent value in health care; however, this can come at the expense of caring for oneself. Psychosocial stress poses a significant threat to the well-being of the healthcare workforce. Expressive arts interventions provide a creative means for reducing caregiver stress to remain well and able to provide high quality care to patients. The use of arts for healing has global application because expressive arts intervention can be culturally tailored and relevant.

KEYWORDS

burnout, compassion fatigue, expressive arts interventions, healthcare professionals, nurse, psychosocial stress, stress, systematic review, well-being, workplace stress

1 | INTRODUCTION

The rates of burnout and compassion fatigue are increasing among healthcare professionals (HCPs) in the US and other developed countries (Banerjee et al., 2017; Gomez-Urquiza et al., 2016; Shanafelt

et al., 2015; Wu, Singh-Carlson, Odell, Reynolds, & Su, 2016). Burnout and compassion fatigue directly affect the health of the clinician and research shows that clinician well-being has a direct impact on patient health outcomes (Salyers et al., 2016). Burnout is associated with an increase in self-reported medical errors (West et al.,

2006) and higher infection rates among hospitalized patients (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Conversely, Cimiotti and colleagues found that hospitals where burnout was reduced by 30% had over 6,000 fewer infections, for an annual cost saving of up to \$68 million (Cimiotti, Aiken, Sloane, & Wu, 2012).

Recent policy recommendations in the US also reflect the understanding that the well-being of the HCPs has an impact on patient health outcomes. In 2014, Bodenheimer and Sinkov published a report, *"From Triple Aim to Quadruple Aim: Care of the Patient Requires Care of the Provider,"* noting that clinician burnout presented a threat to achieving the Triple Aims, which sought to improve the US healthcare system by: (a) enhancing patient experience; (b) improving population health; and (c) reducing costs (Bodenheimer & Sinkov, 2014). Their report stated that clinician well-being has directly impacted on each aim by and that the consequences of burnout extend to patients in measurable ways. Most recently, the National Academy of Medicine released a discussion paper calling for the well-being of HCPs to be a national priority, because burnout poses a significant threat to the clinicians' health, and safe, high-quality care (Dyrbye et al., 2017). They emphasized that future studies should gain a better understanding of workplace stress with the ultimate goal of creating and testing interventions to address the well-being of clinicians.

1.1 | Background

Psychosocial stress in the workplace is multifaceted. It is caused by increasing work demands, higher acuity, and staff shortages (Rushton, Batcheller, Schroeder, & Donohue, 2015). It is also caused by repeated exposure to patient suffering, cumulative patient death, moral distress, and lack of time to address the psychosocial implications of caregiving (Conte, 2011; Gerow et al., 2010; Granek et al., 2017; Rushton et al., 2015). Psychosocial stress was considered an umbrella term that encompasses many different but related constructs (e.g., burnout, compassion fatigue, stress, and emotions related to workplace stress). These terms are used interchangeably throughout the literature but operationalized differently. A variety of theoretical and conceptual frameworks guide the research on psychosocial stress in the workplace. Examples include the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), the Model of Health Professionals Grieving Process (Papadatou, 2000), the Self-Awareness Based Model of Self Care (Kearney & Weininger, 2011) and the Compassion Fatigue Framework (Figley, 2002a).

Psychosocial stress in the workplace can have an impact on the personal health outcomes of the healthcare professional. One study of over 1,000 nurses reported that 18% of the nurses were depressed compared with the national average of approximately 9% (Letvak, Ruhm, & Gupta, 2012). A cross-sectional study of physicians found burnout to be independently associated with a 25% increased odds of alcohol abuse or dependence and 200% increased odds of suicidal ideation (Oreskovich et al., 2012; Shanafelt et al., 2011). Suicide rates for male physicians is 40% higher than that of other males in the population and the rate

for female physicians is 130% higher than that of other females (Center et al., 2003).

Numerous systematic reviews of interventions to prevent burnout and improve well-being among HCPs have been conducted in the past year (Duhoux, Menear, Charron, Lavoie-Tremblay, & Alderson, 2017; Hill, Dempster, Donnelly, & McCorry, 2016; Lamothe, Rondeau, Malboeuf-Hurtubise, Duval, & Sultana, 2016; Panagioti et al., 2017; Romppanen & Häggman-Laitila, 2017). The interventions identified in these reviews included educational programs, retreats, mindfulness-based stress reduction skills, cognitive training, and organization changes, such as workload adjustments, teamwork building and communication training, but none of the reviews included expressive arts interventions. Of the intervention research evaluated, there was significant variation in types of programs, outcomes measured and theoretical or conceptual frameworks guiding the research. In addition, the methodological quality varied and most were evaluated to be weak in design. Many of these reviews cited moderate to weak evidence that the interventions reviewed reduced burnout or improved well-being (Duhoux et al., 2017; Hill et al., 2016; Panagioti et al., 2017; Romppanen & Häggman-Laitila, 2017). However, Lamothe et al. (2016) found that Mindfulness Based Stress Reduction (MBSR) improved perceived stress in 95% of the studies reviewed and showed improvement in burnout in 53%. Overall, these systematic reviews concluded that there is a continued need for better intervention development and high-quality research.

There is a growing interest in the impact of arts on well-being. In a recent study of 39 healthy adults, researchers found that participants' cortisol levels significantly decreased after 45 min of art-making. In addition, participants reported that the time used to create was relaxing and provided time for self-reflection (Kaimal, Ray, & Muniz, 2016). Expressive arts interventions—generally defined as visual arts, storytelling, dance, music, imagery, chanting, poetry, drama, writing, drawing, movement, imagery, or any other creative process used for self-expression—have been shown to improve psychosocial functioning, spirituality, and meaning-making in numerous populations. Specifically, expressive arts have been successfully used to improve psychosocial well-being in people with cancer (Archie, Bruera, & Cohen, 2013; Domingo et al., 2015; McClean, Bunt, & Daykin, 2012), adolescents with grief (Dalton & Krout, 2006), veterans with PTSD (Wellman & Pinkerton, 2015) and to aid bereavement among family caregivers (O'Callaghan, McDermott, Hudson, & Zalberg, 2013).

The extension of expressive arts interventions to improve well-being for healthcare workers is new and, compared with other interventions, underexplored. The field of narrative medicine uses expressive writing and healing narratives to facilitate storytelling, which is an essential part of health care because it helps connect us to our own and others' humanity (Sierpina, Kreitzer, MacKenzie, & Sierpina, 2007; Silverman, 2017). Other studies have found that the use of music with HCPs can evoke emotions that words alone cannot access (Phillips & Welcer, 2017; Repar & Reid, 2014; Włodarczyk, 2013). The objective of this review, therefore, is to describe and evaluate the effectiveness of expressive arts interventions implemented

with healthcare workers (both non-licensed and licensed professionals) to address psychosocial stress.

2 | THE REVIEW

2.1 | Aims

To date, there is no systematic review of expressive arts interventions used to address psychosocial stress in the healthcare workplace. The purpose of this systematic review is to address the following questions:

1. What are the characteristics of the studies (e.g., sample and design)?
2. What are the theoretical frameworks used to guide expressive arts intervention studies?
3. What are the characteristics of expressive arts interventions used with HCPs?
4. What outcomes are addressed and how are they measured?
5. What is the impact of expressive arts interventions on these outcomes?

2.2 | Design

A quantitative systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009).

2.3 | Search methods

2.3.1 | Inclusion criteria

Inclusion criteria were as follows: (a) intervention studies conducted between 1997–2017 that address workplace stress, professional grief, compassion fatigue, secondary traumatic stress, or burnout; (b) interventions that used the expressive arts (music, poetry, narrative, storytelling, writing, singing, dancing, visual, or tactile art); (c) quantitative and mixed methods studies that evaluated the effectiveness or acceptability of the intervention; (d) intervention studies that targeted any healthcare worker and/or any healthcare setting; and (e) articles written in English.

2.3.2 | Search terms

A systematic search was conducted with the following international databases: SocINDEX, PsycINFO, Pubmed and CINAHL. A

secondary review of the ancestry literature was also carried out. A 20-year timeframe was selected, because a review of expressive arts interventions has not been done and we desired to conduct a comprehensive review. The following key terms were used in multiple combinations: compassion fatigue, burnout, workplace stress, psychosocial stress, professional grief, interventions, effectiveness research, creativity, expressive arts, music, expressive writing, narrative, storytelling, resilience, self-care, nurses, doctors, social workers and healthcare professional. See Table 1 for an example of the search strategy.

2.4 | Search outcome

A Health Reference Librarian was consulted at the start of the literature search to ensure rigor. After initial key terms were searched, she suggested additional terms and strategies to expand the search. For example, in addition to the term expressive art, the word creativity was added to the search and yielded additional articles. This systematized approach to entering the keywords and tracking results was repeated verbatim with all databases. Limits to the search were those detailed in the inclusion criteria, such as language, time and type of expressive arts intervention. The last search for studies was done in January 2018.

The first author assessed titles of all articles from the database search. The search yielded 249 relevant titles after duplicates were removed (Figure 1). Abstracts were reviewed and studies were excluded if: (a) the intervention was not aimed at workplace stress and/or did not use the expressive arts; (b) the intervention was for non-healthcare workers and/or students; (c) the article was a systematic review, meta-analysis, primarily qualitative study, case report, dissertation/thesis, or conference abstract; and (d) the article was not written in English. From the 249 abstracts reviewed, 27 non-duplicative articles were selected by the first author for full text review. Both authors then independently screened the 27 full-text articles using the criteria stated above. Any disagreements on the studies to be included in the final review were discussed by the two authors until there was consensus. After review and discussion, an additional 13 articles were removed if, on further review, the intervention did not meet the expressive arts intervention as defined in the inclusion criteria or because only program evaluation was reported. The final sample included 14 relevant studies that were confirmed by both authors.

2.5 | Quality appraisal

To assess the quality of the studies, both authors independently reviewed the final 14 articles according to four criteria to assess study

TABLE 1 Search strategy

Database	First concept	Second concept	Third concept	Limitations
CINAHL	Compassion fatigue OR burnout OR workplace stress OR psychosocial stress OR professional grief	AND Intervention OR effectiveness research OR expressive arts OR music OR expressive writing OR narrative OR storytelling OR resilience OR creativity OR self-care	AND healthcare professional OR nurses OR doctors OR social workers	English Dates: 1997–2017 Peer-reviewed

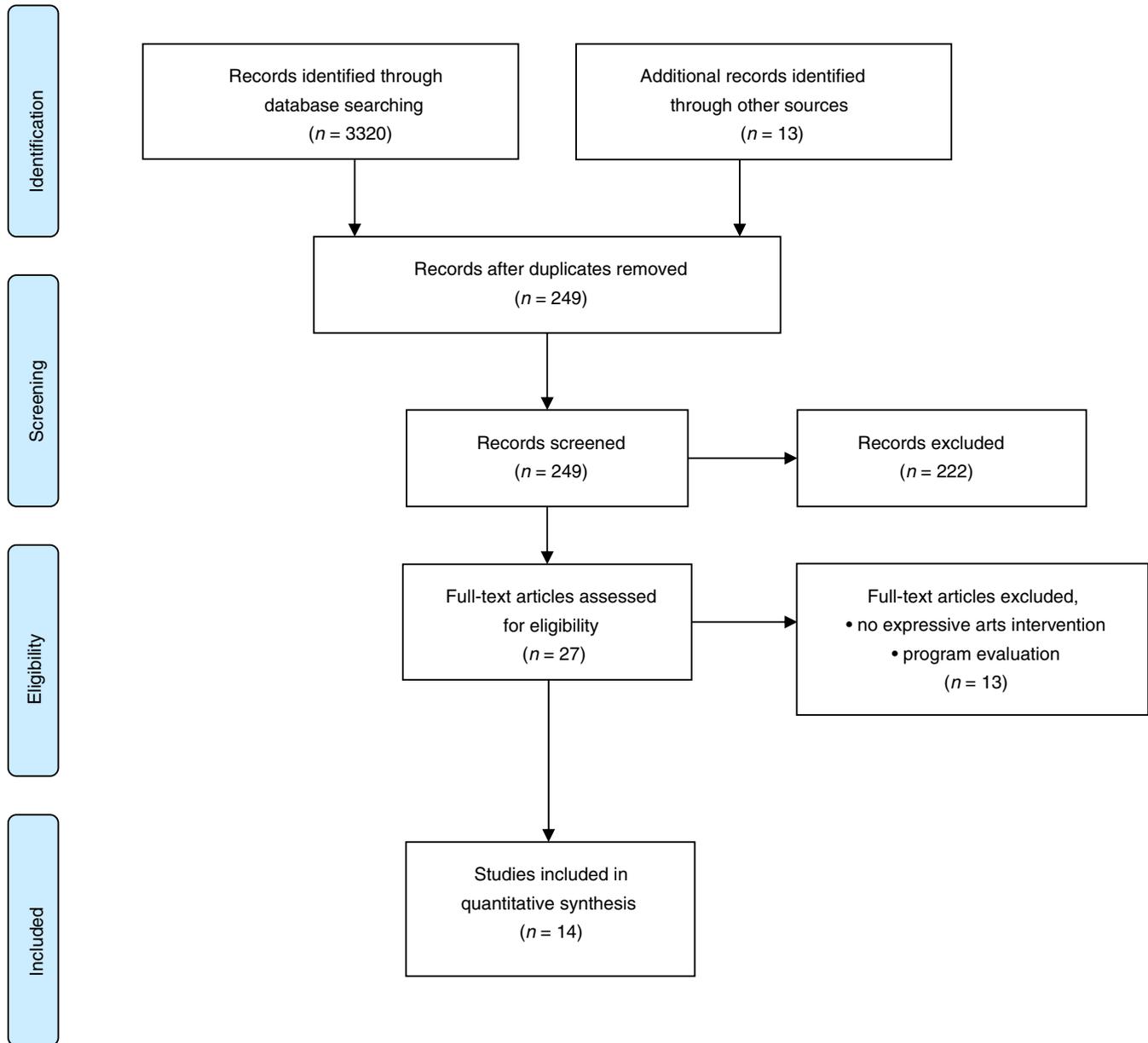


FIGURE 1 PRISMA flow diagram [Colour figure can be viewed at wileyonlinelibrary.com]

quality and risk of bias: design, measurement, intervention fidelity and statistical analysis. In these four categories, studies were rated as low, medium, or high quality. The evaluation was informed by the National Institute of Health Quality Assessment Tools (National Institute of Health, n.d.).

For the first quality criteria, design, studies were scored as “high” if experimental with random assignment; “medium” if quasi-experimental with a control group or time series; and “low” if pre-experimental, single group with pre- and post-testing. The second criteria, measurement, evaluated the selection and use of instruments in the studies. They were given a “high” rating if reliability and validity information was reported from the current and previous studies, the instrument was assessed as reliable and valid for the studies intended use and sensitive to the desired change. A “medium” score was given if only reliability and/or validity information from previous

studies was given and a “low” score was given if no reliability and validity information was provided, if only researcher generated tools were used with no reliability or validity information from the current study, or if an instrument was used that did not have a good fit to the study purpose.

For the third quality criteria, intervention fidelity, studies were scored as “high” if multiple indicators of fidelity were described and consistently well applied; “medium” if only 1–2 indicators were described and/or poor fidelity indicated; and “low” if no description of fidelity indicators was given. Examples of intervention fidelity that may have been considered include: evidence that the intervention was implemented as planned, standardization, collection of data from participants about their ability to apply what they learned, acceptability of the intervention to participants, intervention previously piloted, description of facilitator training, or monitoring of

how many sessions participants attended to understand dosage. The final quality criteria, statistical analysis, was evaluated as “high” if the studies provided information about the data and assumption checking, if analysis fit the research questions and relevant data were reported; “medium” if the analysis did not completely fit the questions/variables, if there was little mention of assumptions or data cleaning and if relevant data were reported; and a “low” score was given if there was a poor fit between the analysis and research questions, there was no mention of assumptions or data cleaning, or if there were gaps in data reporting.

2.6 | Data abstraction and synthesis

The first author extracted basic information from each study that included: design, theoretical framework, sample and setting, intervention characteristics, outcome measures, and results. This information was compiled in Table 2. Next, a descriptive analysis of the intervention studies was conducted to describe the nature of expressive arts interventions, the contexts and the intended change. Finally, both authors systematically compiled the data required to assess the quality of studies that were included in the review. The synthesis of these results is presented in Table 3.

3 | RESULTS

3.1 | Study characteristics

The overall sample size across studies included in this review was 897 participants. Between the studies there was great variation in sample size, ranging from 6–248 (median, $N = 35$). Although the search dated back to 1997, the earliest study located for this review was from 2003. Nearly eighty percent of the studies ($N = 11$) were conducted in the last 10 years and 50% ($N = 7$) of those were completed in the past five years. Most studies were conducted in the US ($N = 11$), but other countries represented were Lithuania, Hong Kong, and Italy. The participants in the studies were predominately female ($N = 694$), with a mean age of 39.2 years (range = 19–78; 8 studies that reported the mean age, $N = 315$). Nurses ($N = 520$) were the primary occupation represented; however, others represented in the sample were social workers, physicians, physical and occupational therapists, music and art therapists, clergy, staff, administration and unlicensed healthcare workers. Most studies ($N = 9$) were done in areas with a high end-of-life exposure—oncology, palliative care, and hospice. The other areas represented were long-term care, domestic violence shelter, medical-surgical, and paediatrics. The study designs varied and only two were randomized controlled trials. The remaining studies were some variation of a 1-group or 2-group pre-experimental or quasi-experimental design.

3.2 | Theoretical frameworks

Only three of the 14 intervention studies included a description of a theoretical framework. Bormann et al. (2006) used Model of the

Stress Response by Biondi and Picardi (1999) and Anderson and Gustavson (2016) used Nola Pender's Health Promotion Model (2006). Kravits, McAllister-Black, Grant, and Kirk (2010) used a combination of two frameworks: (a) the Cognitive Model of Stress and Coping (Lazarus & Folkman, 1984); and (b) the Transtheoretical Model of Change by Prochaska and Norcross (2001). Authors of all three studies described their theoretical orientation and discussed the alignment between concepts, intervention, and outcomes.

Specifically, Bormann et al. (2006) had good alignment among theoretical framework (Model of the Stress Response), intervention (mantram use), and outcome measures (stress, anxiety, anger, quality of life, and spiritual well-being). The intervention is aimed at stress reduction and the outcomes are all constructs in the theoretical framework. Furthermore, the use of the Stress and Coping and the Transtheoretical Model of Change by Kravits et al. (2010) was also an appropriate theoretical framework and the intervention (psycho-education plus art activities) was targeted at conceptual aspects in the framework. The only quantitative outcome measure they used was burnout, which is appropriate for an indirect evaluation of workplace stress, but it does not specifically address coping or intent to change behaviour. However, both constructs were appropriately evaluated with a qualitative thematic analysis that is not in the scope of this review.

Finally, Anderson and Gustavson's (2016) selection of the Health Promotion Model was also an appropriate framework to guide an intervention aimed to improve well-being. The intervention (knitting) was well-aligned because the model examines the relationship between health promoting behaviours and wellness. However, the outcome measure, Professional Quality of Life (ProQOL), quantifies the risk for compassion fatigue by measuring burnout, secondary traumatic stress, and compassion satisfaction. This outcome measure is an inverse proxy for well-being. The intervention may have better aligned with an outcome measure for stress or well-being.

3.3 | Intervention characteristics

The expressive art interventions encompassed three categories: art-based, music-based, and storytelling/narrative. Most expressive art interventions reviewed were art-based (50%) and included knitting, poetry, making quilt panels, art-viewing, and art-making with oil pastels and silk painting. The music-based interventions (29%) included drumming with piano accompaniment, mantram (a word with spiritual meaning) creation and repetition, songwriting and music-making with a variety of instruments. Finally, the storytelling/narrative interventions (21%) entailed peer-led storytelling sessions about patient death and narrative training. Four of the programs added a psycho-educational component to their intervention in addition to the expressive arts. The psycho-educational aspects included relaxation skills and techniques (Italia, Favara-Scacco, Di Cataldo, & Russo, 2008); deep breathing, positive intention practice, and a wellness plan (Kravits et al., 2010); breathing exercises, guided visualizations, reflective writing (Potash, Ho, Chan, Wang, & Cheng, 2014); and guided meditation and breathing exercises (Hilliard, 2006).

TABLE 2 Expressive arts intervention studies

1st Author, date (Country)	Study population	Objectives	Study design	Intervention setting	Quantitative measures	Findings
Anderson & Gustavson, 2016 (United States)	Oncology Nurses; N = 39	Evaluate the use of knitting to address compassion fatigue (CF).	Pre-experimental	Workplace	Professional Quality of Life (QOL), R-IV	Improvement in the mean score of burnout (24.72–22.91) and secondary traumatic stress (mean scores not reported). Tests of significance not reported.
Bitman et al., 2003 (United States)	Long-term care professionals; N = 112	Examine the clinical and potential economic impact of Recreational Music-Making on burnout and mood dimensions.	Randomized Controlled Trial; crossover design	Not mentioned	Maslach Burnout Inventory; Profile of Mood States	T-test showed statistically significant improvement in burnout dimensions: emotional exhaustion ($p = 0.03$) and personal accomplishment ($p = 0.003$); mood dimensions: tension/anxiety ($p = 0.0003$), depression/dejection ($p = 0.03$), anger/hostility ($p = 0.03$), vigor/activity ($p = 0.004$), fatigue/inertia ($p = 0.00001$); and total mood disturbance ($p = 0.007$).
Bormann et al., 2006 (United States)	Health care workers; N = 62	Examine the effectiveness of repeating a mantra on emotional and spiritual well-being	Pre-experimental	Hospital	Cohen's Perceived Stress, Spielberger State/Trait (SS/T) Anxiety Inventory, SS/T Anger Inventory, Endicott's QOL Enjoyment and Satisfaction Short Form (SF), Spiritual Well-Being (WB) Scale	Statistically significant improvement in stress ($F = 28.44$, $p < 0.001$), trait-anxiety ($F = 11.70$, $p = 0.002$), trait-anger ($F = 5.94$, $p = 0.02$), quality of life ($F = 30.46$, $p = 0.001$), and spiritual well-being ($F = 10.09$, $p = 0.003$). When comparing results between high mantra and low mantra users, high users showed significantly lower scores with trait anxiety ($F = 4.41$, $p < 0.05$) and higher scores in religious well-being ($F = 4.69$, $p < 0.05$) and total spiritual well-being ($F = 7.57$, $p < 0.01$).
Hilliard, 2006 (United States)	Professional hospice workers; N = 17	Evaluate the effect of two types of music therapy on CF and team building.	2-group (Intervention and Comparison), Pre-experimental	Hospice clinic setting	Compassion Satisfaction/Fatigue Self-Test for Helpers (CFS); Team Building Questionnaire (TBQ)	No significant difference in pre- to post-intervention CFS scores in group 1 ($Z = -0.047$, $p > 0.05$) or group 2 ($Z = -1.101$, $p > 0.05$). Also, no significant difference in CFS between the two groups ($Z = -0.254$, $p > 0.05$). Statistically significant improvement in TBQ in group 1 ($Z = -3.022$, $p < 0.05$), group 2 ($Z = -2.124$, $p < 0.05$), and between both groups ($Z = -1.992$, $p < 0.05$). Experimental group 2 improved more.
Ifrach & Miller, 2016 (United States)	Counselors; N = 30	Determine whether a social action-based art therapy directive could reduce stress and CF.	Pre-experimental	Not mentioned	CF Self-Test, Psychological Stress Measure 9	Results showed a statistically significant decrease in stress ($t(29) = 6.61$, $p < 0.001$). Scores on pre- and post-test were strongly correlated ($r = 0.81$, $p < 0.001$). Compassion Fatigue was only measured pre-intervention.
Italia et al., 2008 (Italy)	Pediatric oncology nurses and doctors; N = 20.	Evaluate the use of an art therapy intervention to reduce burnout. (Part 2 of study)	Pre-experimental	Not mentioned	Maslach Burnout Inventory (MBI)	Statistically significant reduction in burnout dimension: emotional exhaustion ($t = 2.899$, $p = 0.009$), distancing ($t = 2.121$, $p = 0.047$), and personal accomplishment ($t = -2.251$, $p = 0.036$).
Karpaviciute & Macjauskiene, 2016 (Lithuania)	Nurses and nursing assistants; N = 115	Evaluate the impact of arts activity on well-being.	2-group (Intervention and Control), quasi-experimental	Workplace	Warwick-Edinburgh Mental WB, Health Survey SF (SF-36), Reeder stress scale, Multidimensional fatigue inventory (MFI-20)	Statistically significant improvement in the intervention group was found in the SF-36 Vitality/Energy ($p = 0.01$) and MFI-20 general fatigue ($p = 0.03$) subscales (Wilcoxon rank test). Between the intervention and control group the SF-36 Emotional Well-being was better in the intervention group ($p = 0.00$) (Mann Whitney U Test for independent samples).
Kravits et al., 2010 (United States)	Oncology and community nurses; N = 248	Evaluate an art-based psycho-educational program effect on burnout.	Mixed methods	Classroom setting	MBI	Mean scores for all dimensions of burnout (EE, DP, and PA) improved post-intervention. Tests of significance not reported.

(Continues)

TABLE 2 (Continued)

1st Author, date (Country)	Study population	Objectives	Study design	Intervention setting	Quantitative measures	Findings
Macpherson, 2008 (United States)	Oncology nurses; N = 6	Examine the effect of peer-supported storytelling on grief.	Mixed methods	Location chosen by participant.	3 researcher-generated questionnaires; Hogan grief reaction checklist (HGRC); Inventory of Social Support	Significant, positive correlations between the number of special patient deaths and the impact of sessions on grief (Spearman $r = 0.93, p = 0.01$). Scores on HGRC did not change significantly (2-tailed Wilcoxon signed ranks test, $p < 0.05$). Feasibility problems; participants completed only half of the planned intervention.
Potash et al., 2014 (Hong Kong)	End-of-life healthcare workers; N = 132	Examine the effectiveness of art-therapy group compared to skills group in reducing burnout and death anxiety.	2-group (Intervention and Comparison), Pre-experimental	Not mentioned	MBI-General Survey, Five Facet Mindfulness Questionnaire, Death Attitude Profile-Revised	Art-therapy group only showed statistically significant decrease in emotional exhaustion ($t = 2.64, p = 0.011$); increase in observing ($t = -3.29, p = 0.002$); and nonjudgmental approach to inner experience ($t = 2.13, p = 0.038$). Death avoidance significantly decreased ($t = 2.14, p = 0.037$) in art-therapy based group, but increased in the skills group ($t = -2.25, p = 0.029$).
Rice et al., 2014 (United States)	Oncology Nurses; N = 9	Explore the effect of virtual peer storytelling on grief.	Mixed methods	Virtual meetings	Professional loss survey	The mean score for "loss overload" decreased post-intervention (4.33–3.22). Tests of significance not reported.
Salzano et al., 2013 (United States)	Hospice caregivers; N = 20	Determine the effectiveness of a collaborative art-making task on reducing burnout and increasing social support.	1-group; Pre-experimental	Workplace	MBI-General Survey; Support Appraisal for Work Stressor	Art-making intervention showed statistically significant decrease in burnout ($F(1,18) = 6.87, p = 0.02$), and increase in social support ($F(1,18) = 5.66, p = 0.03$) when compared with the control group.
Sands et al., 2008 (United States)	Paediatric oncology professionals; N = 19	Evaluate the feasibility and effectiveness of narrative training to promote empathy, team building, and prevent burnout.	Mixed methods	Not mentioned	Interpersonal Reactivity Index (IRI), Stressor Scale for Paediatric Oncology Nurses (SSPOS)	Paired t test showed perspective taking improved significantly ($p = 0.029$) and the Empathetic Concern subscale trended towards significant improvement ($p = 0.056$). Reported stress levels ($p = 0.008$) on SSPOS increased after intervention.
Wlodarczyk, 2013 (United States)	Hospice workers; N = 68	Examine the effect of a single-session group music intervention for grief resolution on feelings of disenfranchised grief, burnout, and CF.	Randomized Controlled Trial	Hospice centre	Hospice Clinician Grief Inventory (HCGI), CFS, Work Environment Scale	No statistically significant difference in pre- to postintervention HCGI scores was found in the experimental group ($t(33) = 1.1, p > 0.05$). With Bonferroni correction, there was a significant difference for the subscale personal sacrifice burden ($t(33) = 2.35, p < 0.025$). There was no significant difference between the control and experiment group in post-test HCGI scores ($t(66) = 1.04, p > 0.05$). No significant difference was found in burnout and compassion fatigue scores between groups.

Abbreviations: CF, Compassion Fatigue; CFS, Compassion Satisfaction and Fatigue Test; HCGI, Hospice Clinician Grief Inventory; HGRC, Hogan Grief Reaction Checklist; IRI, Interpersonal Reactivity Index; MBI, Maslach Burnout Inventory; QOL, Quality of Life; SF, Short Form; SS/T, Spielberger State/Trait; SSPOS, Stressor Scale for Paediatric Oncology Nurses; WB, Well-being.

TABLE 3 Quality assessment criteria and results ($N = 14$)

	Design	Measures	Fidelity	Statistical Analysis
Anderson and Gustavson (2016)	L	M	M	L
Bittman et al. (2003)	H	M	H	H
Bormann et al. (2006)	L	M	H	M
Hilliard (2006)	L	L	M	H
Ifrach and Miller (2016)	L	M	M	M
Italia et al. (2008)	L	M	M	M
Karpaviciute and Macijauskiene (2016)	M	H	M	H
Kravits et al. (2010)	L	H	M	M
MacPherson (2008)	L	L	M	M
Potash et al. (2014)	M	M	M	M
Rice et al. (2014)	L	L	M	L
Salzano et al. (2013)	M	H	M	M
Sands et al. (2008)	L	M	M	M
Wlodarczyk (2013)	H	M	M	H
H=high				
M=medium				
L=low				

The most frequently cited location for administering the interventions was in the workplace (43%); however, five of the studies did not discuss where the interventions were conducted. The interventions were facilitated by a range of professionals: artists, musicians, art-therapists, physicians, psychiatric nurses, music-therapists, researchers, psychosocial therapists, peer-led, and grief-moderators. However, if split into three groups, the interventions were facilitated by the following three categories of facilitators: artists ($N = 1$), HCPs or researchers ($N = 7$), or HCPs/researchers who were also artists ($N = 5$). One study was described as peer-led. The length of intervention varied from 1 hr–13 weeks. However, the most consistent intervention length was six weeks ($N = 5$).

Only two of the 14 studies conducted a pilot study to evaluate the efficacy of the intervention and appropriateness of outcome measures. None of the studies discussed doing a need assessment prior to the intervention testing. Only one study addressed attrition because their participants were only able to complete half of the intervention (MacPherson, 2008). Most studies ($N = 11$) only conducted pre- and postintervention testing. Of the other studies, only one additional data point was taken.

3.4 | Outcome measures

In general, the interventions were conducted to address psychosocial components of workplace stress. However, there is a significant heterogeneity in how this was described and measured. For example, a review of study titles indicates that six studies aimed to address burnout, four studies addressed compassion fatigue, three

studies specifically addressed workplace grief, and one study generally stated workplace stress. Yet, the outcome measures varied from burnout ($N = 5$); compassion fatigue ($N = 4$); stress ($N = 4$); and a range of emotions from grief to anger, anxiety, and empathy ($N = 7$). Multiple tools were used to measure these outcomes. The Maslach Burnout Inventory (MBI) (Maslach, Jackson, & Leiter, 1996) was used most frequently to measure burnout. Compassion fatigue, or the risk of compassion fatigue, was measured with three different instruments: Compassion Fatigue Self-Test (Figley, 1995), Compassion Satisfaction and Fatigue Test (Figley, 2002b) and the Professional Quality of Life (ProQOL) scale (Hudnall-Stamm, 2008). A summary of the most common outcome measures, along with a notation of statistically significant improvement, non-significant improvement, significant deterioration, non-significant deterioration, or no change, were plotted against the three categories of intervention (art-based, music-based and storytelling/narrative) and displayed in Table 4.

None of the interventions that were aimed at addressing compassion fatigue had a statistically significant impact (Anderson & Gustavson, 2016; Hilliard, 2006; Wlodarczyk, 2013). Ifrach and Miller (2016) only measured compassion fatigue pre-intervention with the intent of correlating the impact of the intervention on stress based on level of compassion fatigue. No significance was found with this correlation. Furthermore, none of these studies reported effect size, so the impact and overall clinical effect of the intervention cannot be evaluated.

Studies evaluating grief as an outcome, had either no change (MacPherson, 2008; Wlodarczyk, 2013) or non-statistically significant improvement (Rice, Bennet, & Billingsley, 2014). The most common statistically significant improvements were seen with the studies that used the MBI scale (Bittman, Bruhn, Stevens, Westengard, & Umbach, 2003; Italia et al., 2008; Potash et al., 2014; Salzano, Lindemann, & Tronsky, 2013), stress (Bormann et al., 2006; Ifrach & Miller, 2016), and social support (Hilliard, 2006; Salzano et al., 2013). Hilliard (2006) measured team work and this was included as social support.

Use of an additional time point for data collection did not necessarily clarify the intervention effect. Bittman et al. (2003) found a statistically significant improvement in burnout and mood dimensions on 6-week postintervention testing. However, MacPherson (2008) and Wlodarczyk (2013) also included an additional data point, mid-intervention and 1-month postintervention, respectively, but did not have statistically significant improvements in their outcomes.

Studies looked at different emotional outcomes such as mood disturbance (Bittman et al., 2003), anger (Bittman et al., 2003; Bormann et al., 2006), anxiety (Bittman et al., 2003; Bormann et al., 2006), overall mental well-being (Karpaviciute & Macijauskiene, 2016), and grief (which was already discussed). Each of these studies showed a statistically significant improvement, except for grief. Other outcomes that showed improvement were perspective-taking and empathetic concern (Sands, Stanley, & Charon, 2008), general fatigue (Karpaviciute & Macijauskiene, 2016), well-being (Bormann et al., 2006; Karpaviciute & Macijauskiene, 2016), death anxiety (Potash et al., 2014), and awareness (Potash et al., 2014).

TABLE 4 Summary of primary outcome measures

Study	Intervention characteristics	Study quality	Outcome measure									
			Burnout	Compassion fatigue	Stress	Well-being	Quality of life	Social support	Grief	Anger	Anxiety	Empathy
Art-based												
Anderson and Gustavson (2016)	Knitting	Low	△									
Ifrach and Miller (2016)	Art-making to add to a group peace pole	Medium	NR	▲								
Italia et al. (2008)	Psycho-education with Art activities	Medium	▲									
Karpaviciute and Macjauskiene (2016)	Silk painting	High		△		▲						
Kravits et al. (2010)	Self-care education through poetry and art (oil pastels)	Medium	△									
Potash et al. (2014)	Art-based vs. Skills-based	Medium	▲ ^{1,†} △ ^{2,†}									
Salzano et al. (2013)	Decorating quilt panels for a group quilt	Medium	▲					▲				
Music-based												
Bittman et al. (2003)	Drumming with keyboard accompaniment.	High	▲ ^{†,§}							▲	▲	▲
Bormann et al. (2006)	Mantram creation and repetition	Medium			▲	▲	▲	▲		▲	▲	▲
Hilliard (2006)	Unstructured music making vs. structured music making	Medium		-- ¹ △ ²					△ ¹ ▲ ²			
Wlodarczyk (2013)	Songwriting	High	--	--						--	†	
Storytelling/Narrative												
MacPherson (2008)	Peer-Storytelling	Low						△		--		
Rice et al. (2014)	Virtual Peer-Storytelling	Low								△		
Sands et al. (2008)	Narrative Training	Medium			▼							▲

Note: ▲ Significant improvement; △ Non-significant improvement; -- No change; ▼ Significant deterioration; NR-Not reported. 1-Group 1; 2- Group 2; †Emotional exhaustion subscale; ‡Personal sacrifice burden subscale; §Personal accomplishment subscale.

3.5 | Expressive arts intervention impact on outcomes

Nine of the 14 studies showed a statistically significant improvement in outcomes and, of these nine studies, the sample size ranged from 17–132 (median = 30). Four additional studies showed improvements that were not statistically significant. Only one study showed no change in outcomes. The art- and music-based interventions showed the most improvement compared with the storytelling/narrative interventions.

Interestingly, four studies included a psycho-educational component to their expressive arts intervention and outcomes improved in all of them (Hilliard, 2006; Italia et al., 2008; Kravits et al., 2010; Potash et al., 2014). However, the improvements in the Kravits et al. (2010) study were not statistically significant. Potash et al. (2014) specifically compared one group that received an art-based intervention with education to a second group that received only education on skills. The group that received both art and education had better outcomes. Conversely, the group receiving only education showed increased cynicism and death avoidance and less death acceptance.

Hilliard (2006) did a similar comparison between two intervention groups. One group was offered unstructured music-making without any other education and the second group was offered structured music-making along with guided meditation and breathing exercises. Both groups showed statistically significant improvement in team building outcomes, but neither group showed statistically significant improvement in compassion fatigue scores. However, when post-test scores were compared between groups, the improvement from receiving music and education was statistically significant, while the change was not significant in the other group.

3.6 | Quality assessment

The overall quality assessment for each study is reported alongside the most frequently used outcomes in Table 4. For most, the methodological quality of the studies was low to medium ($N = 11$). Specifically, the design of most studies ($N = 12$) was 1-group pre-test/post-test design which threatens internal validity and increases the risk of bias. Only two of the studies were rated at a high level and both involved a randomized controlled trial design. Similarly, most studies were rated at low to medium quality for measurement ($N = 11$). Most articles provided some reliability information, but most did not discuss validity. The intervention fidelity of 12 out of 14 studies was also low to medium, because most articles only provided one indicator of fidelity. Finally, most articles ($N = 10$) had low to medium quality for statistical analysis since some analyses were not well developed (i.e., assumptions underlying the analyses were not discussed).

4 | DISCUSSION

The purpose of this systematic review is to identify and synthesize evidence about the effectiveness of expressive arts interventions

used to address psychosocial stress in HCPs. In general, there was a lack of theoretical and conceptual frameworks used to guide the intervention studies. As discussed, only three of the studies reviewed mentioned the use of a theoretical framework to guide their intervention and only two of those studies demonstrated clear alignment between concepts, interventions, and outcomes.

When evaluating psychosocial stress among HCPs, the constructs of compassion fatigue and grief are important because of the exposure to loss, trauma, and moral distress. However, none of the studies targeting these outcomes showed significant improvements. This could be for several reasons. First, more time may be required to show improvements and these studies did not include any data on longitudinal intervention effects. Second, the interventions that targeted stress reduction may have shown better outcomes using stress as the measure rather than compassion fatigue. Last, the conceptual confusion with the construct of compassion fatigue has an impact on how the phenomenon is measured and there is no instrument that specifically measures professional grief. The grief tools used were created to capture the grief related to the loss of a family member, rather than professional grief related to the repeated loss of patients. There is a difference and future research should target developing a tool to capture the phenomenon that leads to psychosocial stress in the workplace.

The four of the studies that included a psycho-educational component in their expressive arts intervention had greater changes in burnout and social support than studies without such components. One possible explanation is that the expressive arts intervention provided an accessible community of likeminded professionals who were seeking to cope with similar stresses. In this effort, their social support was increased, which in turn decreased isolation, a symptom that highly correlates with burnout (Karaoglu et al., 2015). Another possible hypothesis is that the expressive arts intervention brought the participants awareness to their emotions and then the psycho-education provided the skills necessary to improve coping.

The outcome of the narrative medicine study by Sands et al., 2008 is an interesting example of when the addition of a psycho-educational component may have improved outcomes. The intervention—which used narrative training as a means to promote empathy and team building as a way to prevent burnout—showed a statistically significant increase in stress and empathy among participants (Sands et al., 2008). The intention of the narrative training was to help professionals discuss the impact of grief and loss. However, the outcome showed that, while empathy increased as desired, so did the participants' stress levels. The increase in both empathy and stress is concerning because this combination may increase the risk for compassion fatigue and psychosocial distress (Sabo, 2011). The researchers noted that the intervention was, “not a bandage for suffering” and that it may have “made participants more aware of the unfairness and suffering encountered in paediatric oncology” (Sands et al., 2008, p. 311). Potentially, the addition of a psycho-educational component may be advantageous because skills can be taught to help cope with the emotional experience if

the intervention over exposes or re-traumatizes the participant. This is an important consideration in the development of psychosocial interventions.

The results of this systematic review highlight the need for more methodologically rigorous intervention research. At this time, the available evidence could not be reviewed by a meta-analysis because the science is still exploratory in nature. Many of the studies were feasibility studies using non-experimental designs. As research in this area matures, future reviews will be able to use a more rigorous quality assessment process, incorporating the Cochrane risk of bias tool, to evaluate the quality of the research.

4.1 | Strengths and limitations

This is the first systematic review evaluating expressive arts interventions aimed to address psychosocial stress and improve well-being. The reliability and validity of the data search for this review was increased by using a Health Reference Librarian's guidance to focus the systematic search of the literature and by following the PRISMA guidelines. In addition, a two-person review of what studies to include and the assessment of their quality increased the rigor of the findings. The review was also strengthened by the broad range of concepts represented in the overarching constructs of workplace psychosocial stress and well-being, which allowed for an examination of a diverse set of expressive arts interventions. This variation in type of intervention and sample diversity (age, occupation and specialty) increases generalizability.

There are several limitations to this review. First, the heterogeneity of intervention characteristics and outcome measures used makes it difficult to synthesize the findings. There is a risk for publication bias because only published studies found in the literature and ancestry search were included. Another limitation is that the quality indicators are reliant on the information provided in the published articles. The authors of these studies were not contacted to provide additional confirmatory information. The final limitation to this review is a language bias because only studies written in English were included.

5 | CONCLUSION

Psychosocial stress that results in burnout and compassion fatigue pose a significant threat to the well-being of the healthcare workforce internationally. The causes of workplace stress vary greatly, which results in multiple approaches to interventions to address the problem. Creative expression and art have the potential to enhance psychosocial well-being and decrease stress. The gaps in the expressive arts intervention literature have been discussed and future research should continue to focus on better conceptual understanding of the factors related to psychosocial stress in the workplace. This will help refine existing theoretical models to specifically address the emotional work that results from providing patient care. This work is necessary to provide a clearer approach to intervention

development, outcome measurement, and better congruence between the two.

The use of arts for healing has global application because the expressive arts intervention can be culturally tailored and implemented in a variety of settings. This systematic review provides some preliminary evidence for the potential effectiveness of expressive arts interventions depending on the outcomes targeted and the nature of the intervention. However, results should be interpreted cautiously because the methodological rigor of many studies reviewed was moderate to low. More high-quality intervention research is required to improve the work lives and well-being of HCPs.

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CONFLICTS OF INTEREST

No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS

CP, HB Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; CP, HB involved in drafting the manuscript or revising it critically for important intellectual content; CP, HB have given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; CP, HB agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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